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The Journal of the Cincinnati Society of Natural History, Vol. IV, No. 3, Oct., 1881. 8vo, pp. 80, 1 plate, cuts. Cincinnati, 1881. From the society.

Tenth Report of the State Entomologist on the Noxious and Beneficial Insects of the State of Illinois. By Cyrus Thomas, Ph.D., State Entomologist. 8vo, pp. 232, cuts. Springfield, 1881. From the author.

Notes upon the genus Catocala, with descriptions of new varieties and species. By Henry Edwards. 8vo, pp. 8. From the Bulletin of the Brooklyn Entomological Society, November, 1880. Brooklyn, 1880. From the author.

Palæontological Bulletin, No. 33. On some Mammalia of the Lowest Eocene beds of New Mexico. By E. D. Cope. 8vo, pp. 12. Ext. Am. Phil. Soc. Philadelphia, Sept. 17, 1881. From the author.

The Century Plant. By Joseph F. James. 8vo, pp. 2. Ext. from the Journal of the Cincinnati Society of Natural History. Cincinnati, 1881. From the author.

Fourteenth Annual Report of the Trustees of the Peabody Museum of American Archæology and Ethnology, Vol. III, No. 1. 8vo, pp. 42. Cambridge, 1881. From the curator.

Geology of Washtenaw county, Michigan. By Alexander Winchell. 8vo, pp. 30. Ext. from the History of Washtenaw county. Chicago, 1881. From the author.

Climate of Michigan. By Alexander Winchell. 8vo, pp. 12. From the Annual Report of the Horticultural Society, 1880. Chicago, 1881. From the author.

Proceedings of the United States National Museum, August, 30, 1881. 8vo, pp. 30. Washington, 1881. From the society.

The nature of the existence of Matter. By Edward Randall Knowles. pp. 8. Pascoag, R. I., 1881.

Studies in Astronomy. A lecture elaborated for general readers. By Arthur K. Bartlett. 12mo, pp. 56. Battle Creek, Mich., 1881. From the author.

Bulletin of the Essex Institute, Vol. XIII, Nos. 4, 5, 6—April, May, June, 1881. 8vo, pp. 76. Salem, 1881. From the society.

Circulars of Information of the Bureau of Education, No. 6, 1881. A Report on the teachings of Chemistry and Physics in the United States. By Frank Wigglesworth Clark, S.B. 8vo, pp. 220. Government Printing Office, Washington, 1881. From the Sec. of Interior.

Charter and By-Laws of the Texas Copper Mining and Manufacturing Company. A History of the Company. A Letter from the Department of the Interior. By Joseph S. Wilson, Commissioner. Professor Wm. DeRyees' Geological Report. 8vo, pp. 16. Dallas, Texas, 1880. From the company.

Mining World, Sept. 15, 1881, Vol. II, No. 2. 4to, pp. 16. Los Vegas, N. M.

Report to his Excellency, the Governor. The Thirty-ninth Missouri University Catalogue, 1880–81. 8vo, pp. 172, 5 plates. Jefferson City, 1881. From the university.

Report on the Geology and Resources of the Black Hills of Dakota, with Atlas. By H. Newton, M.E., and Walter Jenney, M.E. Department of the Interior, Washington, U. S. Geog. and Geol. Survey of the Rocky Mountain region, J. W. Powell in charge. 4to, pp. 564, 1880.

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GENERAL NOTES.

BOTANY.[1]

An Interesting Lady's Slipper.—Professor Bastin, of the University of Chicago, describes and figures, in a recent number of *The Druggist*, a two-flowered specimen of the large Lady's Slipper *(Cypripedium spectabile)*, which he found while botanizing last June in the region at the southern end of Lake Michigan.

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[1] Edited by Prof. C. E. Bessey, Ames, Iowa.

One flower was of the normal form, but the other was almost perfectly regular. "It had all three sepals distinct, and of equal size; it had no 'slippĕr' or lip, but the three nearly equal petals were shaped alike, differing from the sepals only in being a little narrower, and, of course, alternating with them. The ovary, which in most Orchidaceæ, and all other Cypripediums, is twisted through half a revolution, in this case was not twisted at all, and it was only slightly, instead of conspicuously bent to one side, so that the flower faced more nearly upward than in the ordinary form. The column, as usual, consisted of united stamens and pistils, but it was much less bent to one side, and the union of parts was not nearly so complete. There were three distinct anthers instead of two, alternating with the lobes of the distinctly three-lobed stigma. Instead of one large, dilated, triangular, fleshy body, apparently occupying the place of the third stamen in the ordinary form, and heretofore supposed in fact to be homologous with the third stamen, there were two of these bodies alternating with the petals, and evidently belonging to a distinct whorl. They may really be the homologues of stamens, but if so, the plan of the flower contemplates two distinct sets of stamens, with three in each set. Or we may, perhaps, with better reason, regard them as petals belonging to an inner whorl that alternates with the first."

THE CONIFERS OF JAPAN.—Dr. Maxwell T. Masters publishes in the _Journal of the Linnean Society_ for July, a valuable paper on the Conifers of Japan. Thirteen genera are represented, and of these one, _Sciadopitys_, is peculiar to Japan; two, viz: _Cryptomeria_ and _Cephalotaxus_ are peculiar to Japan and China. _Ginkgo_ is supposed not to be a native of Japan, although often cultivated. Of the forty-one species enumerated, no less than twenty-two (which are indicated by an asterisk in the subjoined list) are peculiar to Japan, and this fact leads Dr. Masters to infer "that Japan may have formed a special center whence Conifers have migrated elsewhere." The species given, omitting varieties, are the following: *_Thuja dolabrata_ L., *_T. Japonica_ Maxim., _T. orientalis_ L. (_Biota orientalis_ Endl., the Chinese arbor vitæ of the gardens), *_T. pisifera_ Masters (_Retinospora pisifera_ Seib. et Zucc.), *_T. obtusa_ Masters (_Retinospora obtusa_ Seib. et Zucc.), _Juniperus rigida_ Seib. et Zucc., *_J. nipponica_ Maxim., _J. littoralis_ Maxim., _J. taxifolia_ Hook. et Arn., _J. chinensis_ L., _Cryptomeria japonica_ Don., *_Cephalotaxus pedunculata_ Seib. et Zucc., _C. drupacea_ Seib. et Zucc., _C. umbraculifera_ Seib., *_Taxus cuspidata_ Seib. et Zucc., *_T. tardiva_ Laws., *_Torreya nucifera_ Seib. et Zucc., *_Podocarpus Nageia_ R. Br., *_P. cæsia_ Maxim., *_P. appressa_ Maxim., _P. macrophylla_ Don., *_Sciadopitys verticillata_ Seib. et Zucc., _Pinus densiflora_ Seib. et. Zucc., _P. Thunbergii_ Parl., _P. parviflora_ Seib. et Zucc., _P. koraiensis_ Seib. et Zucc., _P. cembra_ L., var. _pumila_ Parl., _Picea Maxmowiczii_ Regel, *_P. polita_ Carr., *_P. Alcockiana_ Carr., _P._

ajanensis Fischer, *P. Glehnii* Fr. Schmidt, **Tsuga Sieboldi* Carr., **T. diversifolia* Masters, *Abies firma* Seib. et Zucc. (includes also the forms hitherto known as *A. bifida* Seib. et Zucc.), **A. brachyphylla* Maxim., *A. Veitchii* Lind., *A. Sachaliensis* Masters, **A. homolepis* Seib. et Zucc., **A. Mariesii* Masters, **Larix leptolepis* Endl. The value of this paper is greatly enhanced by numerous excellent figures, and by what appears to be a full list of the numerous synonyms under which these plants have been known. It cannot fail to receive attention from the growers of Japanese Conifers in this country, and it is to be hoped that it will serve to better the nomenclature of these trees in the gardens and catalogues of our nurserymen, to say nothing of its use among botanists themselves.

A Pocket Manual of Botany Wanted.—Why has not some enterprising book-publishing house given the army of collecting botanists in this country a neat little pocket manual of botany? Every one who has ever collected at all (and what botanist has not?) has felt the need of carrying a manual with him to enable him to call to mind certain peculiarities which require examination in the field; but the burden of carrying a rather large and somewhat heavy book on a long jaunt, is often too much in addition to the load of plants, so the book remains behind. If we had a little pocket edition of, we will say for example, Gray's Manual, printed on thin paper, in small type (agate or pearl), bound in flexible covers and trimmed close to the margins, there is no reason why every student and collecter might not always have with him this much valued guide. A collector needs to have his manual with him in the field, just as much as the engineer needs his "field book," and the style of the well-known Henck's Field-Book might profitably be taken as a model by our book makers.

Lemna polyrrhiza again discovered in flower on the Detroit river.—On July 24, 1881, after an interval of ten years, I have again found *Lemna polyrrhiza* L., in flower, in great abundance, in the same pond on Belle Isle, in the Detroit river, Michigan, in which my first discovery (of July 30, 1871) was made, my specimens at that time determining the fact, which had been disputed, that the flower contained two ovules. (See American Naturalist, Vol. 5, p. 652.) The flowers were in every stage of development, some being in bud (the stamens still enclosed in the spathe), some in full blossom, while others were past or gone to seed. .The shade of overhanging growths, such as wild rice, pickerel weed, blue flag and Sagittaria, seemed to favor the production of the flowers, they being found more abundant when thus situated, the frond, as I have observed, being at the same time reduced in size. As might be expected, in clusters representing fronds of various stages of growth, the older fronds were the flowering ones.

At 4 h. 15 m. P. M. both stamens were expanded; but closed at night, when I placed them in a vessel of water. At 7 o'clock next morning they had commenced to expand, three sets of flowers being in that condition. At 7 h. 45 m. A. M. eighteen had expanded, while by 8 h. 30 m. over thirty sets of flowers had opened, remaining so all day. They invariably closed towards night. In each instance one of the two stamens was always in advance of the other in ripening its pollen.

Kept in water, for two weeks they continued to blossom, though gradually going to seed. At the end of that time no more flowers were produced, though the plants were not taken from the water for drying till August 17th, or about three and a half weeks altogether. The young plants were produced proliferously in large numbers, falling to the bottom of the vessel.

In 1871, at the west end of this pond, I found *L. polyrrhiza*, *L. trisulca* and *L. minor* in flower at the same time, the first named being largely in the majority. While at the other end of the pond *L. trisulca* was found in blossom, associated with flowerless *L. polyrrhiza* and *L. minor*, the latter two being greatly in the minority. At the present time *L. minor* has totally disappeared, and there are only a few stray depauperate specimens of *L. trisulca* to be seen, *L. polyrrhiza* being evidently the victor, having driven out the other species and taken possession of the pond, which, this year, owing to excessively dry weather, is greatly reduced in size.—*Henry Gillman, Detroit, Michigan.*

BOTANICAL NOTES.—Charles S. Dolley, student in the medical department of the University of Pennsylvania, has rendered an excellent service in translating Cohn's brochure on Bacteria. The translation is well done, although the German idiom is often retained, sometimes a little awkwardly. A good plate, borrowed from the *Microscopical Journal*, is added, and some foot-notes are appended. The opening sentence of the translator's preface furnishes the reason for this attempt: "Why scientific and medical books, above all others, should not be published in cheap editions in this country, as they are abroad, is a query that has occurred to me at various times since the beginning of my medical studies." It is to be hoped that this translation will be followed by others from the same hand in the near future.——The August and September numbers of the *Torrey Bulletin* are unusually rich in important papers. We note the following in the August number. "Notes on Gymnosporangia," by Dr. Farlow; "Fern Notes," by G. E. Davenport, describing *Tænitis lanceolata* R. Br., discovered this year on Old Rhodes Key, Fla., by A. H. Curtiss; "New Species of North American Fungi," by J. B. Ellis, describing *Valsa tuberculosa*, *Lephiostoma tingens*, *Sphæria funicola*, *S. latebrosa*, *S. gallophila S. defodiens*, *S. Mertensiæ*, *S. leiostega*, *S. Eckfeldtii*, *Meliola maculosa*, *Asterina nigerrima*. In the September number E. L. Greene, in "New species of plants, chiefly

New Mexican," describes *Astragalus Gilensis*, *A. mogollonicus*, *Potentilla subviscosa*, *Megarrhiza Gilensis*, *Senecio cardamine*, *S. Howellii* and *Polygonum Parryi*; Professor Eaton continues his valuable notes "New or little known Ferns of the United States," and describes a fern from Florida (discovered by A. H. Curtiss), *Aspidium trifoliatum* Swartz, not hitherto known in the United States; G. E. Davenport's note on "Vernation in Botrychia," is interesting as recording the case of "two Botrychiums whose buds have thrown a doubt, for the first time in my experience, on the reliability of the bud-form as a test for the determination of the smaller species of the genus;" W. H. Leggett describes the curious bellows-like structure of the anthers of *Rhexia Virginica*, by means of which the pollen is actually blown out upon the body of a visiting insect!——The September *Gardener's Monthly* contains an interesting account, by Thomas Meehan, of the snow plant (*Sarcodes sanguinea*) of the Sierras. As a result of many examinations it is determined to be "an annual, germinating on small pine roots, and subsequently obtaining subsistence from the earth, as *Aphyllon* and *Epiphegus* do.". In the same number Mr. Meehan records the receipt of specimens of horseradish seeds, which are very rarely seen; these came from Maine.——A new tree fern, *Cyathea monstrabilia*, from Jamaica, is described by G. S. Jenman, in the September *Journal of Botany*. The trunk is four or more feet in height, and three inches in diameter.——C. M. Vorce, in the *Am. Mo. Microscopical Journal*, describes, rather vaguely, the wholesale destruction of acari by some fungus, which may have been some species of *Entomophthora*.——Holt & Co., N. Y., have just brought out an American edition of McNab's Botany, revised by C. E. Bessey. As issued, it includes within one compact 16mo volume, the morphology and physiology, and the outlines of classification which composed the two books of the English edition. In introducing it to American students in second or middle class schools, the editor hopes "that it may serve to direct attention to the study of plants as living things, rather than to their bare analysis and classification."——Geo. A. Bates, of Salem, Mass., offers for sale bound copies of Dr. Farlow's new book, "The Marine Algæ of New England and the Adjacent Coast."——Joseph F. James' short paper on "The Century Plant," read before the Cincinnati Society of Nat. History, contains a number of interesting facts about this valuable plant. ——E. Lamson Scribner, of Girard College, Philadelphia, has undertaken to publish sets of the grasses of North America in fascicles of about one hundred species each. Specimens in quantity are solicited from all parts of the country, especially from the far South and South-west. Those donating specimens for this work will receive sets, more or less complete, according to the quantity and value of their contributions. The first fascicle is promised for January next. It is sincerely to be hoped that Mr.

Scribner will receive such encouragement as will enable him to carry to a successful conclusion a work of so much importance. ——Dr. N. L. Britton has compiled for the Geological Survey a "Preliminary Catalogue of the Flora of New Jersey." It is printed on alternate pages, the blank pages being intended for notes, additions and corrections. J. B. Ellis furnished the list of Fungi, A. B. Hervey the marine Algæ, and Francis Wolle, the fresh-water Algæ, and T. F. Allen the Characeæ. The notes are valuable, and in many cases are quite full. Copies (to be returned in 1882) may be obtained by addressing the State geologist, Professor Geo. H. Cook, New Brunswick, N. J.

ZOÖLOGY.

The Resemblances and Diferences of the two Sexes, by M. G. Delaunay.—This is the title of a paper published in the *Revue Scientifique* for September 3, 1881. It has special interest as presenting the most complete review of the differential characters of the sexes of the human species which has appeared. The author's conclusions are curious and instructive. We give a necessarily much abbreviated synopsis.

The author commences by showing that the female is much the larger and more powerful in most of the lower animals. He cites the Cephalopoda, certain cirripeds, most annelids, most insects—as Hymenoptera and Lepidoptera. Among vertebrates the female is the larger among many fishes and reptiles. Among the higher *Vertebrata*, the relations are reversed. In birds, except in a few birds of prey, the male is the larger, and this is universally the case among *Mammalia*. This superiority of the male sex consists in the following points: In the male the phenomena of nutrition are the more intense. The blood is denser and redder, and contains more red corpuscles and hæmoglobine, and fewer white corpuscles and less water. Malassez has proven that man has a million more red corpuscles in a cubic millemeter of blood than woman. Man eats more than woman. The public charities know that it costs more to feed a boy than a girl. Nevertheless though she eats less, woman eats more frequently. In the asylums the women take food from the table, thus doubling the number of their meals.

Respiration is more intense in man than in woman. In a man and woman of equal size, the man has a demilitre more pulmonary capacity.

Man absorbs more oxygen, though he breathes less frequently. According to Quetelet, between the ages of fifteen and fifty, woman has one inspiration per minute more than man. At all ages man excretes more carbonic acid than woman. The temperature of man is more elevated than that of woman. In the circulation, the blood-pressure is stronger in man than in woman, but the pulse is less frequent. The differences in several animals are as